

Appl. No.: 10/088,731  
Response dated March 18, 2007  
Reply to Office action of December 18, 2007

## REMARKS

### Claim Status

Claims 12-14, 17-20 and 23-31 are pending. Claims 12-14, 24, and 26-28 are rejected under 35 U.S.C. Section 112, 2<sup>nd</sup> paragraph. Claims 12-14, 17-20, and 23-31 are rejected under 35 U.S.C. Section 103(a).

The present Amendment is a *bona fide* effort to address the issues raised by the Examiner and to clarify the subject matter of the claimed invention. Accordingly, entry of the Amendment into the record is respectfully solicited.

### Claim Amendments

Claim 12 has been amended in the manner as Claim 18 was previously amended in the Amendment of October 2, 2007. The present invention, as will be discussed in more detail, is directed, *inter alia*, to the combination of (a) an alkyi and/or alkenyloligosaccharide and (b) as now recited in Claim 12 and as previously amended in Claim 18, dicarboxylic acid monoesters and/or salts thereof. It shall be understood that additional components may be added to elements (a) and (b) of Claims 12 and 18.

The undersigned, on behalf of Applicants, extends apologies to the Examiner for the previous attorney's amendments to Claim 12 in the Response of October 2, 2007, which amendments resulted in the rejection under Section 112.

It is respectfully submitted that the amendment of Claim 12 addresses the present rejection.

The Examiner is kindly requested to withdraw the rejection under Section 112, 2<sup>nd</sup> Paragraph.

### Discussion of Results shown in Table 1

In view of the Examiner's comments at pages 6 and 7 of the Official Action with

respect to the unexpected results achieved by way of the invention, it is apparent that clarification and further explanation of the data is required.

According to the Examiner at page 6, "With respect the unexpected properties of foam stability and mucus membrane compatibility, examiner notes that **the inventive composition 1 and comparative composition C4 have equal amounts of the claimed composition and yet the instant composition shows higher foam and lower irritation. It is not clear as to how the comparative is different from the inventive composition** so as to render the above properties. Further, instant claims recite foam stability, whereas **the table above shows increased foam and applicants have not correlated that an increase in foam equals stability.**" (emphasis added.)

Applicants hereinafter address the Examiner's comments in view of some misunderstandings that are evident based on the comments above.

As will be discussed below, the alkyloligoglucoside tartrate of C4 is NOT one of the claimed components of the invention.

At page 1, lines 7-15 of the specification, alkyloliglycosides are described as surfactants having adequate basic foaming ability. However, their foam stability (i.e. maintaining foaming) is poor.

Reference is also made at page 1, lines 18-26 of the specification to EP 0258814 which describes esters of alkyloligoglucosides with hydroxycarboxylic acid, such as tartaric acid. Such tartrate esters are lacking in compatibility with mucus membranes and have poor foam stability. It is the **tartrate ester of alkyl oligoglucoside of the prior art that is C4** in the data at Table 1.

At page 2, lines 8-21, the specification describes that the present invention provides compositions of (a) alkyl and/or alkenyloligoglycosides and (b) dicarboxylic acid monoesters and/or salts thereof, which compositions provide mucus membrane compatibility and **exhibit good foaming behavior and high foam stability in hard**

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water, even with high levels of fats in the water.

Thus, Applicants have discovered that the addition of dicarboxylic acid monoesters to alkyloligoglycosides significantly improves the foam stability of and reduces the irritation caused by alkyl oligoglycosides, as described in the specification.

By "foam stability" herein then is meant that **the ability to maintain foam is increased**. This is shown by the higher basic foam and foam height data at Table 1.

The compositions of the invention at Table 1 had basic foam and foam height values that were demonstrably **higher** than C1-C4 comparative examples. Further, the compositions of the invention also scored significantly lower irritation scores than C1-C4.

This is demonstrated by the data at Table 1 with "Foaming Capacity" and "Total Irritation scores."

The present invention thus desirably achieves higher foam values and lower irritation scores than the alkyloligoglycosides of the prior art.

It is therefore respectfully submitted that Applicants have demonstrated and correlated the data at Table 1 with the compositions of the invention, which compositions unexpectedly provide high foam stability (increased foaming capacity) and lower irritation than the alkyloligoglycosides and alkyloligoglycoside tartrate esters of the prior art.

#### Rejection under Section 103

Claims 12-14, 17-20 and 23-31 have been rejected under Section 103 as being obvious over the teachings of US 3, 623, 887 ('887) in combination with JP 09308822 ("JP"). The rejection is respectfully traversed.

It is respectfully submitted that the combined teachings of '887 and JP would not direct one of skill in the art to arrive at the claimed compositions.

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'887 discloses that the addition of a small amount of a C12-24 fatty alcohol improves the emulsifying properties of three generic classes of aliphatic esters. See Column 1, lines 15-30 of '887. JP discloses that the addition of an alkylpolyglycoside to a polyglycerol ester of a C<sub>7-21</sub> aliphatic group provides an improved oil-in-water emulsion when mixed with an oil agent.

The combined teachings of '887 and JP do not direct one of skill in the art to combine a dicarboxylic acid monoester to an alkyl and/or alkenyl oligoglycoside in order to enhance the foaming properties of and to reduce the irritation caused by alkyloligoglycosides.

In addition, the data at Table 1, as discussed above, rebuts any alleged *prima facie* case of obviousness.

Applicants are deserving of patent protection for their invention, which is an unobvious advance over the combined teachings of the cited prior art.

The Examiner is kindly requested to reconsider all of the arguments and supporting data demonstrating patentability discussed herein and withdraw the rejection.

It is respectfully submitted that the present Amendment places Claims 12-14, 17-20 and 23-31 in condition for allowance.

The Amendment raises no new issues and only addresses the rejections of record by amending Claim 12 to remove the Section 112 rejection.

Favorable consideration and Entry of the Amendment into the record are respectfully solicited.

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If the Examiner believes there are any remaining issues, the Examiner is kindly invited to contact the undersigned.

Respectfully submitted,

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